

**BISC-428: The Biology of Health from a
Global Perspective (4 units)**

USC and the University of Oxford, UK

July 10 – August 1, 2024

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Course Description:

This course is a collaboration between USC Dornsife College and Oxford University. It explores significant global health problems. Specifically, it will explore the social and environmental factors contributing to disparities in health, and efforts to achieve equity in health and health care throughout the world. The emphasis will be with infectious diseases but will also study non communicable diseases and health systems. Students will learn about public health, illness and disease burden across the world from researchers, advocates and clinicians who have or are working in various countries of Africa, South America, India, Southeast Asia, and in the USA. USC and Oxford based faculty will present their work in global health related to health care systems, infectious diseases and vaccine development and deployment, disease burden, chronic disease management and prevention, and ethics. The class will also focus on contemporary global health issues including the Covid-19 pandemic, malaria, HIV/AIDS, tobacco related diseases, and environmental health.

LEARNING OBJECTIVES

- To be able to explain what is meant by global health.
- Identify the principles of population and public health including health promotion, environmental health and access to care.
- Identify the burden of communicable and non-communicable chronic diseases in developing countries.
- Compare the major global health challenges including risk factors for disease, mortality and disability throughout the world.
- To Learn about the major prevention strategies and challenges for control of infectious disease including Covid 19.
- To Learn about the clinical aspects of many communicable diseases (including HIV and Covid 19), with an emphasis on infectious diseases and strategies used to deliver care, diagnose, treat, and prevent health problems in resource-limited settings.
- Identify the mitigation strategies for communicable diseases including vaccinations, vector control, infection control in hospitals, sanitation and cultural practices and others, with an emphasis on Malaria and Covid-19.
- Explain the WHO sustainable growth goals.
- Explain how non communicable disease are affecting global health.
- Relate major global health governing bodies and the role of non-governmental agencies managing global health.
- Compare different health care systems throughout the world.

Course requirements and Assessment:

Grading Breakdown

The course grade will be based upon **300 possible points**:

Assignment	Points	% of Grade
Ghost Map Summary	50	16.5
Weekly Summaries (2)	40	13
Project Topic	10	4
Project Outline & Bibliography	20	7
Research Presentation	50	16.5
Research Paper	100	33
Participation/Attendance	30	10
Total	300	100

Course letter grades:

Course final grades will be determined using the following scale:

- A 90-100
- A- 87-89.9
- B+ 82-86.9
- B 77-81.9
- B- 72-76.9
- C+ 67-71.9
- C 62-66.9
- C- 57-61.9
- D+ 52-56.9
- D 49-51.9
- D- 46-48.9
- F 45 and below

Structure of the class

Classes will be held from 9:00am – 12:50 pm each day (one day there is an 8:00am start). Week 1 will be held at the Oxford campus (room and dates TBD). Weeks 2 to 3 will be held at the designated University of Oxford location. Most sessions will include a 1-hour discussion following each lecture at the option of instructors/professor. We are scheduling site visits in England to supplement the lectures and discussions.

1. Readings (80 points - 30% of final grade)

A number of readings, pod casts and other resources will be assigned during the course. This includes 3 books which are listed below:

Required Johnson, Steven *The Ghost Map – The Story of London’s Most Terrifying Epidemic*. Riverhead Books, New York, 2006.

Recommended: Michael Marmot *The Health Gap: The Challenge of an Unequal World*. 2015; Piot, Peter *No Time to Lose: A Life in Pursuit of Deadly Viruses*. W.W. Norton, New York, 2012.

The Johnson book (Ghost map), is required and is to be completed before arriving in the UK for the Oxford session. A 3-5 page review and reflection of **this book will be due July 12th on Brightspace**.

In addition, there will be specific readings as listed in the schedule and on Brightspace. All resources (readings and podcasts/videos are required). However, students are required to read all 3 of the assigned readings (1 each week) and for each submit a two-page reflection of its content.

All reflections should include a brief summary of the reading and then the student's impressions about the resource, what it means for global health, and their own careers going forward. The 4 reflections will account for 30% of a student's grade.

2. Attendance/Participation (40 points - 15% of final grade)

Students are expected to attend every class and stay for the duration of the class. In addition to the didactic sessions, we will have up to one-hour discussion sessions 2 to 3 times per week to reflect on the lectures and/or readings. Attending both lectures and discussion sessions are required for the course. All students missing sessions should provide appropriate notice in advance to the faculty. In the case of an unexpected emergency, provide an explanation within 3 days of the absence. Additionally, the instructor and course manager are planning up to three in-person field trips whereby attendance is required.

3. Required Research Project (150 points – 55% of final grade)

Students will work in groups of 3 to investigate a global health problem. The project can be globally focused or can look at the problem in a specific region, continent or country. The study will be problem-based, beginning with the identification of an unmet public health, educational, societal, clinical, or scientific need, an analysis of the underlying causes, the impact on health of a specific population, and recommended solutions. The project will culminate with a presentation to the class and a final paper/proposal.

Components of the Research Project: There are four components to the course research project. First component is to choose a topic (July 18th – 10 points). Second component is to upload a preliminary outline and bibliography (July 25th – 20 points). Third component is a presentation to the class (during the last week of classes – 50 points), and the fourth component is a final research paper (August 14th – 100 points).

Component 1: Choosing a topic

Each group will submit a one to two paragraph description of their choice of topic. This very brief description will identify the topic and countries (at least 2), region or population, and the relevance to global health. Below is the preliminary list of topics. Students can propose a different topic, but this will require the approval of the instructor. **This will be due no later than July 18th at 5pm (local time), 10 points**

Topics (preliminary)

- Creating a more equitable global distribution plan for Covid-19 vaccines
- Pros and cons of Covid-19 vaccine mandates
- Achieving vaccine equity in global health?
- Is telehealth an option for low resourced countries?
- Improving access to clean water
- Is Cholera still a problem?
- Should there be a global universal mandate to assure access to health care for all?
- Reducing incidence and prevalence of malaria
- Food insecurity and malnutrition across the globe
- Addressing the global workforce shortage
- Addressing the global challenges of ensuring transgender and non cis gender health
- Addressing the global obesity problem
- Reducing the impact of tobacco on human health and welfare
- Reducing maternal mortality
- Continuing the global battle against HIV AIDS
- Comparing homelessness in the US with other countries
- The global opioid addiction and overdose problem
- Untreated and preventable Infectious diseases
- Health problems related to migration and asylum seekers
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Component 2: Outline and Bibliography

Each group will submit an outline, including a proposed work plan, and a preliminary bibliography. The submission should be 2-3 pages in length including the annotated bibliography. The outline will show the proposed basic structure of the paper and what you will do to complete the presentation and the final paper. Within your outline you should include: 1) Define the public health problem and why it is a public health concern, 2) Describe how it is affecting global health, 3) Discuss 2 or more countries or regions affected by the public health issue OR describe 1 country or region affected by the public health issue and describe 1 country that has overcome the said health

concern and how did they advance, and 4) Provide some suggestions and recommendations to overcome the public health problem and why you chose those recommendations.

For the preliminary bibliography, please include a minimum of 5 sources (at least 3 of these sources should be primary literature) you will be using for your presentation and/or final paper. The resources should be cited in APA format. All references must be scholarly publications or online references – such as journals, periodicals, newspapers, books, podcasts, and government documents. Wikipedia references or similar online sources are not acceptable. **This will be due no later than July 25th at 5pm (local time), 20 points**

Component 3: Class Presentation

Student groups will present their research findings to the class during the last two class periods in Oxford, UK. The presentations will be approximately 18 to 20 minutes in duration plus Q & A. The presentations will be made using PowerPoint, video, social media, or some other audiovisual interactive activity. The class presentation will inform, educate, and engage classroom peers in the issues, status, affected populations, alternative solutions, as related to their chosen topic. The group presentation will be followed by a 5–10 minute period for questions from the class. Each group's individual members will actively participate in the preparation and presentation of the project, and each individual will be graded based on the proportional merits of their contributions, as well as on the synergistic coherence of the combined group presentation.

Presentations will take place during the last week of class session – 50 points

Component 4: Research paper

Your final paper will be a written communication about the chosen problem, and public health impact, and some recommended solutions. In describing the problem, provide empirical evidence showing the impact the problem is having on a specific country or population and show information in tables or graphs when possible. **It should also include information from the course, such as Oxford lectures supplemented from outside research.**

After describing the problem, discuss different ideas/concepts that your partner team members have identified. Your ideas should be innovative, practical, and show the potential impact on improving health status or health care and the challenges in implementation. Based on your ideas, describe at least 3 specific alternative actions for addressing the problem. Discuss the feasibility of the solution given political, economic, cultural and biologic factors. Also, you will need to describe how budgeting and monetary issues effect your proposed action. Finally, explain how you would evaluate and determine the success or failure of your actions.

The final paper should be 8-10 pages double space, 12-point font size. Times New Roman or Arial is recommended (either is ok, but be consistent) with 1-inch margins, and pages should be numbered. The paper should include 8 references minimum, with

4 references being of primary literature (starting with what was proposed in the outline, Component 2) from which information is to be integrated into the paper. Final bibliography must also be appropriately formatted in APA. **This will be due no later than August 12th at 5pm (Pacific time), 100 points.**

[Statement for Students with Disabilities](#)

Any student requesting academic accommodations based on a disability is required to register with USC Office of Student Accessibility Services (OSAS) each semester. A letter of verification for approved accommodations can be obtained from OSAS. Please be sure the letter is delivered to your course instructor prior to the trip.

[Statement on Academic Integrity](#)

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of other, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. S-Campus, the Student Guidebook, contains the Student Conduct Code in section 11.00, while the recommended sanctions are located in the Appendix.